# AMERICAN FARMER.

## RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICE CURRENT.

" *O fortunatos nimium sua si bona norint*
" *Agricolas.*" . . . . . VIRG.

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## AGRICULTURE.

### EDITOR'S NOTES ON THE HUSBANDRY OF SOME COUNTIES IN VIRGINIA.

*Hydraulic Machinery in operation on Col. Kontz's farm at the "Big Spring," in —— County.*

On the 18th of August, stopping in the afternoon at the '*Big Spring*" tavern, I drove away the ennui which is apt to come over the mind and feelings of a languid and solitary tourist, by examining an Hydraulic contrivance. just then going into operation, on an adjoining farm belonging to Col. Kontz, who was superintending the work. By means of a *forcing pump*, of simple construction, moved by the power of a single spring, emphatically and truly called the '*Big Spring*,' the water was driven to an elevation of 52 feet, at the distance of nearly 400 yards—there it served to supply the kitchen and stable, to irrigate the garden and adjoining grounds—in a word, to answer all those valuable domestic purposes, for which water is indispensible, and in most cases obtained in quantities too small, or at an immense expense of time, labour, and money. In this instance, I was informed by Col. Kontz, that the whole cost of the improvement would not exceed $200, independently of the timber, and a few days labour performed by his own people. I was forcibly impressed with the importance of obtaining a knowledge of the principles and construction of an engine, which would enable others, at so small a price to command advantages so eminent on farms, through which small streams of water now almost uselessly flow. Wherever they create the power, it only remains for us to apply it, as Col. Kontz has done, to possess and enjoy conveniences as great—and I now submit a drawing and description of his engine, that my readers may profit if they please, by his experience. In its present shape it may be available to many, and we are assured, that no one could have any reason to be dissatisfied with its performances, still we do not suppose that it would be found the best means, in most cases, to accomplish the desired end. It requires a considerable current or fall of water—and is, perhaps, a more expensive construction, than we need make under any circumstances. It is not my intention to enter into any investigation of the principles, nor attempt a description of the various Hydraulic engines, that have been relied upon to elevate water for agricultural purposes—for I am authorised to expect, that a professional gentleman will, at an early day, furnish me with an elucidation of these that will be found more satisfactory to my patrons than any which I could give.

I should deem it a matter of supererogation, to dwell for one moment on the great importance of farmers being made acquainted with the cheapest means of turning their springs and water courses to the greatest account.

"*Point de l' eau point de jardin,*" is a *proverb* of the best gardeners in the world—and we might almost ask what can be done without it? If it should be in our power to show the farmer how, by the application of certain mechanical priciples, he may, at a small expense, draw the feeble stream of a neighbouring valley, into his barn-yard, garden, kitchen, and dwelling—how, in a word, he may cause it to turn from its natural and comparatively profitless course to become the dispenser of many domestic comforts, and the cause of great fertility, I shall consider myself amply compensated for all the labour that I could bestow upon the subject.

*Description of an Hydraulic Engine, built for Col. Kontz, at the "Big Spring," Virginia*

BY WILLIAM BERKLEY.

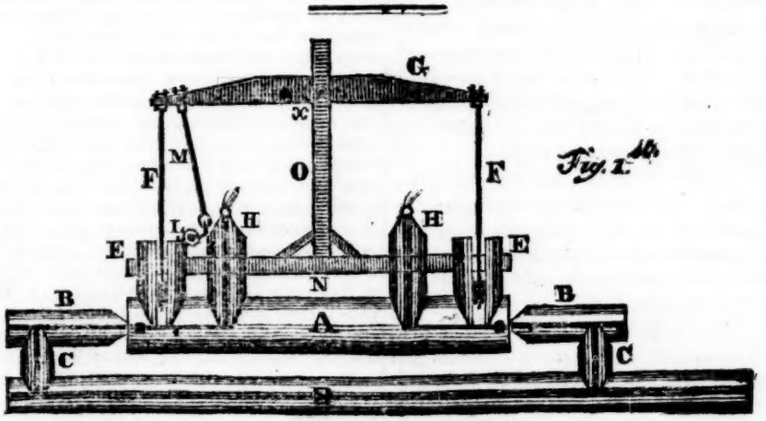


Fig. 1st.

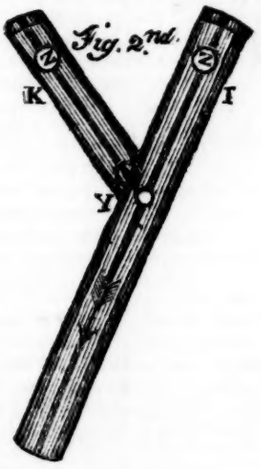


Fig. 2nd.

A is a log 12 feet long, and 22 inches diameter, perforated at its ends about five feet to receive logs B B, 2 feet long, and 14 inches diameter, bored nearly through, and one end pointed and inserted into log A, having a valve in each of these pointed and inserted ends. The small logs C C, of 14 inches diameter, and about 20 inches long, are at right angles inserted at one end into B B, and the other ends into the long pipe D, which conveys the water from the spring to the machine, and lays along side of log A. All the logs above noticed are placed in horizontal positions. Within a foot of each end of log A, are perpendicularly inserted two logs E E, 20 inches diameter, and 2 feet 9 inches long, including the tenons—the upper ends of these logs are bored 2 feet 3 inches, with a 4½ inch augur, to receive metallic cyllinders, half an inch thick, which of course reduces the bore of those cylinders or *chambers*, as they are called, to 3½ inches diameter The pistons work in these chambers, and the boxes are made of green gum wood—these are 6 inches long, and turned to the size of the chambers in the middle for an inch; the other 2½ inches of each end are turned as much less as will allow thick sole leather to be nailed around them, and yet work in the chambers. The leather should be 2½ inches broad—be nailed around the boxes, and about three quarters of an inch from the shoulder. Through these boxes the lower end of the piston rods F F pass, and are screwed. The rods are of iron, 7 feet long, and 1¼ inch square, having a strong joint near the upper end, close under lever G, to which they are fastened by a joint, and a screw bolt that passes through the lever. H H are called uprights, 20 inches diameter, 3 feet 3 inches high, including both tenons bored the whole length, each having a button valve let into the upper ends; they are inserted into log A, about 4½ feet from its ends. Logs I and K unite at Y, (Fig. 2) and are fixed on the tops of logs H H, at Z Z, and convey the water from the machine, to the house or desired elevation. L represents one end of the water wheel shaft, and a crank similar to the crank of a common saw mill. The iron pitender M, is 4½ feet long, and made of 1¼ inch square bar, with a strong joint above, similar to the piston rod joints. N is one of the side timbers of a frame which surrounds and confines, by means of keys, the chambers E E, and the uprights H H. O is one of the perpendicular timbers that are strongly framed into N: between this and the other upright, (not seen in the plate) the lever works on a pin near X—the lever G. is 10 feet long, 4 inches thick, 8 inches high in the middle, and tapered to 5 inches at each end. The pitman is so joined to the lever, and the crank so constructed as to length, that at every revolution of

the water wheel, each end of the lever will rise and fall 18 inches—of course the pistons will make a stroke of 18 inches in their respective chambers; and, as a piston is raised in the chamber, it draws the water after it out of the conveying pipes B, C, D; so, when it descends, the valve in the end of the pipe B instantly shuts, and prevents the water from escaping—then, of course, as the piston continues descending, the water is pressed in one end of log A, through upright H, into conduct pipes I or K. Again, as soon as the piston discontinues pressing, and begins to rise, the valve in the highest end of upright H, closes, and retains the water in the conduct pipes I or K, which unite at Y, and may be prolonged at pleasure. The height to which the water is raised, is 52 feet above the engine,—the distance conveyed is about 400 yards. The water wheel makes about 10 revolutions in a minute; each revolution forces about one gallon of water, which delivers at my house 10 gallons per minute, or 600 gallons per hour. My water wheel is a common under shot wheel, 11 feet diameter, 2 feet in the float boards, the head and fall of the water 3 feet, two feet whereof is fall in the shoot under the wheel, and the other one foot is head—but this is reduced to 10 inches by the gate being generally drawn two inches—the gate is 22 inches wide; therefore the vent is in all equal to 44 square inches; under so light a head it vents and takes but a small quantity of water. The timber, out of which my conduit pipes are made, is pine, the logs next to the engine and until we have reached about 25 feet in perpendicular height, are from 18 to 20 inches diameter—but they gradually decrease thereafter from from 15 to 12 and 10 inches. The bore of all the pipes is 2 inches, and 3-8ths; except the chambers H H, as already noticed, and the socket ends of the joints; the last, for about 6 inches are increased according to the size and strain of the pipe logs, say from 3½ to 5 inches. I had iron bands made from 6 to 8 inches diameter, about 1 inch broad, one edge sharp, the other one fourth of an inch thick—these were driven round the bore into the socket ends of the logs of the first half of the perpendicular height, and they were, no doubt, very useful, as the tennon ends of the logs have to be *driven* into the socket ends; one end of two logs may thus be bound with one band. I have nothing to add, except, that all the joints are to be well fitted and driven. The straighter the timber, of which the pipes are made, the better—the crank should be truly plumb under the lever, and the shaft exactly at right angles with the foundation log A; for if this is not attended to, the crank will cause the lever to vibrate side-ways, at each revolution of the wheel, which throws the piston rods out of truth, and injures the machine. This part of mine had to be altered. The cost of the Engine was somewhat upwards $200, including digging, &c.

## ADDRESS OF JOHN L. NORTH,

*On his election to the Presidency of the Farmers' Society, June* 1817.

GENTLEMEN OF THE SOCIETY,

THE very flattering mark of approbation and confidence that you have been pleased to bestow on me, leaves me no alternative; I have therefore to entreat you to exercise towards me, that indulgence which my predecessor has rendered so necessary, by his very able discharge of the duties of the chair; and to accept my warmest acknowledgments for the honor you have conferred. I will endeavor to repay the kindness, which, in elevating me to the first office in the gift of the Society, has overlooked so many errors and deficiencies, by a faithful performance of the obligation I have come under, and an early and zealous regard for the interests of the Society. Duly appreciating these promises, I cannot but persuade myself, that the following attempt at calling to your recollection, some of the purposes for which our institution was formed, and pointing out a few of the advantages of a close and constant attention to rural affairs, will not be out of place, at this time. It is a lamentable truth, that under the present mode of tillage, our lands are ruined in a few years, whilst the crops we draw from them, give a very inadequate return for our expenditures of labor and money. To cut down and fence in our lands, to grow on them for a few years, annually decreasing crops, then to give them up to weeds and briars, and finally to abandon them in quest of new settlements, is the only rotation now in vogue amongst us. Nor do the evils of this system, great as they are, stop even here; they are usually only the forerunners of the most abject poverty; for it will easily be seen that it is scarcely possible to escape this condition, if to the loss sustained from waste and forced sales, we will take the trouble to add the expense of frequent removals, and the pernicious habits they either introduce or confirm. It was once hoped that this state of things would work its own cure, by leading us to enquire into its causes; and eventually to seek relief from such measures as promised it, at the least expense, and with the greatest certainty. It therefore was eagerly expected that ameliorating crops would soon regularly succeed those of an opposite character, recommended as these so strongly are, by successful experiment, both in Europe and this country. The system of manuring, without which there can be no profitable farming, and which can be obnoxious only to laziness or inveterate prejudices, it was supposed would immediately become a general favorite. The plan of pasturing fields, already injured by a series of exhausting crops, it was thought would speedily be abandoned, and the desolating course of tobacco, corn, cotton, wheat, rye and oats, shunned as the plague. Reasonable as were these hopes & expectations, I am mortified to say they have not been realized; and to add that our advancement towards such a change has been but partial and limited. To place its advantages in the clearest point of view, by comparing them with the folly and destructiveness of the mode of husbandry now practised by us, and thus to recommend this change for general adoption; to set an example in the work of reformation; to stimulate exertion by rewarding merit, and by encouraging enquiry, and diffusing information, to leave ignorance, and idleness, and prejudice without excuse, are among the most prominent objects of our association. But it is not to the introduction of a better mode of tillage only, that the views of the society are confined. The improvement of stock of every kind, constitutes another object of its anxious pursuit; and without taking into consideration the intimate connexion between attention to stock, and improvement in husbandry, may I not venture to assert, that there is not a person of the least taste or feeling, who has not often regretted the mean and degenerating condition, and felt for the sufferings of our cattle, exposed as they invariably are, with nothing but straw for their food, to all the severity of the winter. And can it be reasonable to expect that with such treatment, in winter, without shelter, and with a pittance so tasteless and unsubstantial, and in summer with no other pasture than what our woodlands afford, that cattle will improve? Do you increase the power or usefulness of a mill, by lessening the requisite head of water? Are rivers made navigable by having their supplies cut off? Be assured that it is only to unremitted attention to their necessities, and even ease, we are to look with confidence for any meterial alteration in their size, appearance and usefulness. And when we turn our eyes to the state of our sheep, do we not see almost as much to censure? From observation and experiment, I have reason to think that this state is, in many respects, as friendly to the constitution and habits of this useful animal, as any of the northern states; yet their sheep surpasses ours, as well in size and beauty, as in weight and perhaps fineness of fleece. To what then are we to attribute this difference? Are our oak ridges so small and barren, that sheep cannot thrive on them, or is it because our winters are so long and pinching, and our summers are so wet and hot? Or perhaps it is for want of water and shade, that they do not prosper with us. In many of these particulars we have a decided superiority. Our ridges are large, and though unfit for the purposes of the plough, yet produce an herbage peculiarly grateful to sheep. Our summers are dry; I believe less sultry and oppressive; and our winters are certainly less humid, more moderate, and of shorter duration; never failing springs and branches abound, and our country exhibits every variety of surface. To speak out then, it can be ascribed to nothing but our habitual, I had almost said, proverbial carelessness and inactivity, throughout the winter months especially, on the one hand: and on the other, to the diligence and care with which the farmers of the northward provide during the whole year, for the wants, and even comfort of this helpless, but valuable animal. I might enlarge on many other particulars to which the design of our institution extends; but on this subject I have already trespassed too long on your patience; I will therefore but briefly add, that it embraces every thing connected with rural affairs; the introduction of live fences; manures of animal, mineral and vegetable origin: their nature and suitableness to our lands; the nature of our soils; draining and irrigation; the improvement of fruit trees; the dairy, and even the stye.

I come now to say something of the benefits of a close and continued attention to rural affairs; and these are so numerous and important, that I hardly know where to begin, or how to particularize. Perhaps I cannot fall on a better method to attain my object, and at the same time insure perspicuity, than that of contrasting the result of our manner of conducting a farm, with that of those who have taken the lead of us, in every convenient, elegant, and profitable improvement in husbandry. That we grow not more than seven or eight bushels of wheat on an average, whilst others raise as much again to the acre, I mention at once, as a reproach and incentive: will it be credited, that persons who are well assured that twenty, thirty, forty bushels and upwards, of this grain, have been produced on that quantity of land, will yet remain satisfied with seven or eight? In the Jew's letter to Voltaire, it is asserted, that upwards of one hundred bushels of wheat have been obtained from the acre; and that this was a matter of great novelty, may be inferred from their founding on that very circumstance, the charge of more than ignorance or negligence in Voltaire's silence on the subject. Nay, when in this district there have not been wanting, some two or three instances, where the average to the acre has exceeded thirty bushels, and yet, unaccountable as it may seem, we still persist in farming it according to the old, laborious, pestilential and ruinous mode. In other respects the difference against us is equally great, whilst we grow but about one hundred or one hundred and fifty bushels of sweet potatoes to the acre, five times that quantity are made in the low country, from the same ground. I have heard of a Mr. Ford there, who has even raised one thousand bushels to the acre, and that with no other manure than the offal of the barn-yard; nor do our Irish potatoes generally stand on a better footing. I notice however, with pleasure, that in a solitary instance, in this neighborhood, in proportion to the land planted, upwards of one thousand bushels would have been taken from the acre. It is now necessary to inquire if these facts establish the advantage of good farming; or if these advantages be within our reach? With Indian corn too, the balance is evidently against us; although our soil and climate are admirably adapted to its culture, we seldom exceed forty bushels to the acre, on our best low grounds; and twenty on our high lands; whilst in New-Jersey, an acre has yielded one hundred and eighteen bushels, two quarts; and the average crop, after ordinary manuring, at the northward, I believe to be seldom less than fifty or sixty bushels to the acre. In one instance, in this district, I have known good tillage and manure to have occasioned in the same field, a difference of nearly three to one, in their favor. But I will detain you no longer on this point, than to beg of you to use the means within your power, vigorously and judiciously, and thus speedily to remove the reproach from us.

I have already remarked, that the cattle of this country are poor, ugly, and degenerating, and that nothing short of a total alteration of our treatment of them, will remedy the evil. To prove that it will

do so, I beg your serious attention to the following statements, in which I have been so particular, because I hope that some of you may, by that means, be encouraged to imitate such worthy examples. "Col. Abel Chapman," says a writer in a respectable Boston paper, "has raised some celebrated cattle, which were weighed on foot last Thursday week. The weight of the largest ox was 2,716lbs. the smallest weighed 2,240 lbs. The former exceeded by 12 lbs. the weight of the celebrated Durham ox, killed in England in 1807, and for which 2000*l.* sterling had been refused." The finest breed of bulls and other cattle ever reared in England," says Mr. Willich, in his Encyclo. "was that of the late Mr. Fowler, of Rollnight, Oxfordshire, whose stock was sold by auction in 1791." Mr. W " was among those who witnessed this enchanting exhibition of animals, and admired their incomparable size, form and vivacity. Fifteen prime heads of cattle, namely, five bulls and ten cows, were separately sold for the enormous sum of 2,464*l.* or, on an average, 164*l.* each; the finest bull, named Sultan, only two years old, was purchased by Messrs. Freeman & Eden, of Gloucestershire, at the price of 220*l.* 10*s.*" It is stated in Mr. Niles' Weekly Register, page 136, No. 9. vol. xii. that "one hundred and eighty head of cattle, (one third of them yearlings and calves,) bred by a Mr. Price, near Upton, sold for the enormous sum of 7,600*l.*—one yearling bull for 341*l.* 5*s.*—a heiffer for 252*l.*" And, in No. 18, of the same vol. that "an ox bred at Springfield, Massachusetts, weighed on the hoof, 3,100 lbs. his length from the top of the nose, to the root of the tail, was ten feet seven inches; circumference eight feet nine inches." To obviate an objection that may here be made on the score of climate, &c. I introduce from Judge Johnson's Essay, delivered at the Charleston Literary and Philosophical Society, a fact that will go very far towards removing it. "Mr. Christopher Fitzsimons purchased a cow of the common breed that range over our pine lands; yet this cow, by being liberally fed, was brought to give as much milk, as twelve of those which ordinarily disgrace our cowpens, and her calf, when killed for veal, weighed as much as an ordinary two year old, and full as much as a calf of the large imported breed at the same age." Nor ought I to pass over, in silence, the amelioration that has taken place in the condition of sheep, principally amongst good farmers at the northward. Mr. Livingston, in his book on sheep, gives it as his opinion, that his famous ram Clermont, which at two years old weighed 149 lbs. would, when full mouthed, and in good order, go up to 190 lbs. In the essay above referred to, Judge Johnson mentions that "Mrs. Melvil, of Savannah, raised two pet lambs, which he had it in his power to ascertain were of the most common breed of the country; yet the fleece of one of those sheep weighed 14 lbs the other 15 lbs. the wool was very fine, and the staple was of the average length of fifteen inches, some of it went up to eighteen inches" And I remember to have seen it incidentally mentioned in the account of a cattle show, near Philadelphia, in the year 1813 I think, that a wether weighing considerably more than 200 lbs. had been killed, in the market in that city, the year before. When to these facts we add others which you no doubt recollect, and compare them with such information as we possess, with regard to our own sheep and cattle, what further proofs can we require of the benefits that follow care, perseverance and judgment; or of the evils that attend negligence and sloth. That fruits may be increased to any desirable extent there can be no doubt, since it has been ascertained that even the fig and black heart cherry, will answer very well here; and that they may probably be greatly improved. I again avail myself of Judge Johnson's essay: in page 22, he says "indeed it is scarcely credible to what perfection the peach and the grape have been brought in this state. One hardly dares assert, that the former has attained the size of a foot in circumference, and the bunch of the latter 3 lbs. in weight." In another place he says, "I have seen five different kinds of the most luscious grapes of Europe, heaped on a table in the month of October; and this was in the most obscure parts of the state." One more fact and I have done. But a few years ago, the lands of Loudon county, Virginia, exhausted by the desolating rotation of wheat and tobacco, were purchased by a set of industrious and intelligent Pennsylvania farmers, at about five or six dollars per acre. The same lands, improved as they are, by manures and judicious farming, will now bring from forty to fifty dollars per acre.

Before I close these few statements and remarks, I feel it my duty to beseech you to attend more diligently to such experiments as you may undertake, with a view to the advancement of the plans of our institution: and to conquer that bashfulness, which keeps you from communicating the results, whether prosperous or adverse, with such observations as you may make on the causes of failure or success. The zeal of a few individuals may remove some of the smaller objections from the stream of agricultural knowledge; but it is only by the united and spirited exertions of all, or most of the members of this society, that it can be so cleared out and deepened, as to be made extensively and permanently useful. Books may and will assist us; but they will not supersede the necessity of candid personal observation and experiment. It is only on these often repeated, carefully noted, and honestly communicated, that we can build our improvements. We may learn a great deal of a country from the writings of other, 'tis only by travelling over it frequently ourselves, that we can become intimately acquainted with it. I have now nothing to add, but to express a hope, that we will remain no longer insensible to our favoured lot, or regardless of our own comfort, or the welfare of those that may come after us.

## CONSTITUTION
OF THE
## Rowan Agricultural Society.

1. The society shall be styled the Rowan Agricultural Society.

2. The society shall be composed of *regular* and *honorary* members. The regular members are those who attend the stated meetings of the society, and assist in its transactions. The honorary members are such gentlemen (not residing in the county of Rowan) as the society may think proper to elect, but when attending, they shall have all the rights and privileges of regular members.

3. The officers of the society shall be a President, two Vice Presidents, Secretary and Treasurer. They shall be elected by ballot at the spring meeting, for the term of one year. There shall also be a Committee of Correspondence, consisting of three members

4. The President shall preside in the society at its meetings, and preserve order and decorum. In the absence of the President, his duties shall be performed by the 1st Vice President: and in his absence, by the 2d Vice President. When neither of these officers is present, then the society may call any member to the chair for the time being. The President, at his own discretion, may, or at the request of any five members, shall, call a meeting of the society, first giving ten days notice thereof in the Western Carolinian.

5. The Secretary shall record the transactions of the society. He shall receive in charge all the papers of the society, carefully filing away all letters and communications belonging thereto. He shall take charge of the books and other property of the society.

6. The Treasurer shall have in charge the funds of the society, from whatever source arising, and disburse the same only on the written order of the President. He shall keep a book, wherein his accounts shall be fully stated, and which shall be free to the inspection of the society at every meeting: at the annual meetings he shall make a detailed report of the pecuniary concerns of the society, stating what moneys received, how expended, and the balance on hand.

7. The Committee of Correspondence shall open and carry on a correspondence with other Agricultural Societies, and with intelligent individuals in different sections of the country, for the purpose of collecting information on the most approved methods of cultivation, and for the procurement of the best models of farming implements. All the information and communications received by them shall, at the first meeting thereafter, be laid before the society.

8. It is considered the particular duty of every member of the society, diligently to turn his attention (as much as his situation will allow) to the study of agriculture, and on all occasions to impart to the society any improvements or discoveries he may make; also, to use every exertion in his power to procure correct models of the most approved farming implements in use in any part of the country.

9. It is the duty of the members regularly to attend the meetings of the society; and each member may at any time bring with him into the society one friend as a visitor.

10. Ten members, with the President, or either of the Vice Presidents, or twenty members without either of those officers, may constitute a quorum to transact business.

11. There shall be two regular meetings of the society in each year; one on the first Thursday in the month of October, which shall be called the *annual meeting*: the other, on the last Thursday in the month of March, which shall be called the *spring meeting*.

12. At the same time and place of the annual meeting, the *Agricultural Exhibition and Cattle Show* shall take place; where all persons are invited to attend and bring fair specimens of agricultural productions, and all kinds of stock; also, models of farming utensils and specimens of domestic manufactures: the prizes and premiums are free for the competition of all persons within the state of North-Carolina.

13. The society shall, at the preceding meeting, determine the objects for which premiums shall be offered; but this shall not prevent them, at the time of the Show, from awarding honorary premiums for superior specimens of any thing in the agricultural or manufacturing line, that may be brought forward for inspection.

14. The President and Vice Presidents, together with the Committee of Correspondence, shall compose a board, to make all necessary arrangements for the exhibitions.

15. The President and Vice Presidents shall appoint committees to examine the articles that may be offered at the annual exhibitions, and to judge between competitors and award prizes.

16. Each regular member, upon his admission into the society, shall subscribe his name to the

Constitution and pay $3 ; also, an annual tax of $2

17. Persons wishing to become members shall be proposed to the society and voted for, and if four-fifths of the votes are in favour of the applicant, he shall be considered as admitted to membership.

18. This constitution can only be altered or amended at the regular meetings, and then only by the consent of three-fourths of the members present; and in no case shall it be altered or amended unless there are at least twenty members present.

*To the Editor of the American Farmer.*

## CUT WORM AND CORN CULTIVATION —ROTATION OF CROPS.

In reply to the enquiry of D. Minor, Esq. I can inform him that for ten years past, I have invariably planted corn upon wheat stubble, and have never in a single instance, been materially injured by the cut worm. In the year 1816, when there was a greater failure of the corn crop from the ravages of the worm, than ever happened within my recollection, my crop was but slightly injured: If Mr. Minor will break up his stubble land in the fall and winter, and plant his corn early, he will incur but little risk from the cut worm. There certainly are objections to throwing three grain crops together. The second crop of wheat will not be very good : it will be reduced in comparison with the crop succeeding clover, in the ratio of twenty five to fifteen ; but the corn crop will be certain, is easily cultivated, and more productive than from any other rotation ; and the land when suffered to lie two years in grass, will be found not only to have recovered all its vigor, but to have advanced in improvement.

My experience leads me to prefer a five years rotation in the following order :—Wheat—corn —wheat—clover—clover. The second crop of clover after having been grazed or mown to be fallowed.—As cultivating an entire field in corn, gives an unnecessary quantity of that exhausting crop, I would advise putting part of the field (which in the foregoing rotation is designed for corn) in oats or spring barley. A portion of the corn may also be succeeded by rye. Barley obtained from Mr. Caleb Kirk, is found to answer in this county.

CORNHILL.

*Fauquier, Va.* July 2d, 1821.

FOR THE AMERICAN FARMER.

## CUT WORM BANISHED FROM CORN FIELDS BY PREVIOUS WHEAT CROPS —INFORMATION SOLICITED ON ROTATIONS OF CROPS?

*Wood Lawn, Orange, Va. July 28th,* 1821.

Mr. Skinner,—Permit me if you please through the medium of the American Farmer, to offer my acknowledgements, to the gentlemen who have with so much courtesy, and intelligence, taken notice in the American Farmer of the 6th, 13th, and 20th of July, of my communication, on the subject of the cut worm, and the means of banishing it from the corn field, by a proper rotation of crops. The united experience of these gentlemen seems conclusively to settle the point, that we have nothing to fear from these destructive insects, in a rotation, in which corn is made to follow Wheat. This sir, is an important fact, and irresistibly points to the necessity of making it the basis of every good rotation. But as with this basis, the rotation is susceptible of many modifications, I trust I shall be pardoned, in endeavoring to elicit further information on the subject. And to remove at once all misconception, it may be proper to state, that the rotation, which I am in pursuit of, is the one, that is best adapted to a soil, situation &c. where wheat is the staple crop, where tobacco is excluded, and where it is no object, to grow more corn, than is sufficient for the use of the farm.

From Mr. Turner, I should be much pleased, to receive some further details on the rotation he has adopted. He has however fallen into an error, in supposing it to be the one which I had suggested ; mine was Wheat, Corn, Wheat, Clover, Clover, Clover. Two objections, present themselves to this course. The first that the three grain crops, are thrown together, in succession. The second that the field lies too long in clover, and from my experience, of the present year, will be left naked and bare of vegetation, the third year, by the depredations of the worm. His course being that of wheat, corn, fallow, wheat, clover and clover, obviates it is true, both of these objections. But is it not liable to two others, perhaps, equally as strong? The first is the naked situation in which the field is left in fallow, after corn, subject to the washing rains of winter and spring, and exposed while in this naked state, too much to the influence of the sun, at the commencement of summer. The second objection is, the increase of team, which it will be necessary to keep on the farm to accomplish the fallowing, for wheat, of two fields instead of one. True, the produce from the extra field fallowed for wheat, will be greater, than that from the corn land, but will its excess pay for the additional labour, and expense. Here the proportion between a fallow crop, and corn land in wheat, rarely ever exceeds one fourth, or 25 pr. cent, in favor of the fallow, and they are frequently equal. If these objections can be obviated, Mr. Turner's course, is unquestionably the best.

From my early friend Mr. Marshall, I should be gratified to learn the details, and the success of his eight field system. Time, will now have enabled him, to test its merits, and to resolve some doubts which I had as to its success, and which will be hereafter mentioned. I well recollect the communication, which he alludes to as having made to the Agricultural Society of Virginia in 1818 ; I considered it at the time, as the ablest analysis of a rotation of crops, that I had ever seen, and I have long wished to see it embodied in the pages of the American Farmer, and I trust Mr. Editor, that he will oblige your many readers, so far as to furnish you with a copy for publication. I speak of the Rotation as preferred by him from memory alone, and may therefore fall into some error respecting it, my impression however is, that the modification of the eight years rotation, which he considered as best, was that which places five eights of the land in annual cultivation. Four fields in wheat all fallowed, and one in corn, assuming as I presume, the following rotation, wheat, corn, wheat, clover, wheat, clover, wheat, clover. The objection which strikes me as most potent to this course, is that there is too small a proportion of the land in corn for the support of the farm. It will be recollected that one half of the farm comes under an annual fallow. To accomplish this with any certainty an immense force in horses, or other teams must be kept, and in the long and frequent droughts of our summers, disappointment I should suppose, must frequently ensue, be the force what it may. The expense of supporting these teams, must be great. From the corn house, (too much I confess, the resource with our farmers here) they can derive none, as this crop according to my idea of the matter, would be inadequate to furnish bread corn, and enough to fatten hogs. On the small grain crop then, of some sort, must be their dependence. Does this consist of wheat, rye, or oats, or of all conjointly? And what proportion of the land seeded in small grain, does it take to support the teams? Details on these points and others connected with the system are respectfully solicited, and will I am persuaded be received with much general satisfaction.—To give to them the greater point, let the size of the farm be stated, the number of hands requisite to cultivate it, the period at which the fallowing is generally commenced, whether it is accomplished in whole or in part, by one or more plowings, the quantum of team necessary, &c. &c. &c, It is an object of much importance on all farms, to equalize the labour of the year, as much as possible. Is not this system liable to some objection on this score, in throwing too much labour into the harvest time.

I cannot close this communication, Mr. Editor, without reciprocating my congratulations with you on the facility which your valuable paper affords, to distant agriculturists, for an interchange of opinions on subjects interesting to the agriculture of our country, and I trust, the time is rapidly approaching, when the volumes of the "American Farmer," shall be deemed an indispensible requisite to the library of every intelligent Farmer.

Respectfully, your most obedient

DABNEY MINOR.

From the Southern Patriot.

*Charleston,* April 13.

The subject of Agriculture, on which our correspondent, "*A Cotton Planter,*" has at different times, in this journal employed his pen with so much practical good sense, and solid information, we should be happy to see engage more of the attention in a public manner of those citizens of South-Carolina, who are familiar with its details, and capable of illustrating its principles. There is one branch of the subject of our correspondent's communication this evening which cannot be too frequently or forcibly dwell upon—to wit: The necessity of the establishment of Agricultural Societies.—We shall be proud at all times to co-operate with him in his endeavours to exhibit the utility of such associations. The backwardness of the State of South Carolina in this respect is almost a reproach to her. Our Sister States are far in advance of us in this path of improvement. Surely there can exist no necessity to prove, by elaborate

reasoning, the necessity of such institutions, when it will be admitted by all that through their means, the emulation of Agriculturists is best excited by the distribution of premiums; when it is allowed that the ingenuity of the experimentalist is aided from the light furnished by others engaged in similar pursuits, and affiliated for mutual improvement; when it is granted that such societies are the permanent depositaries of all improvements in the arts and the science of Agriculture; when it is so well known that they present the best means for embodying and preserving the results of all experiments for future instruction; when in fine, it is so evident, that by a chain of such institutions no individual improvement can take place but it speedily becomes a common benefit; and that the inventive resources of many hundred minds, engaged in a kindred occupation, admit of being brought out more effectually by their union than by their disconnected and detached efforts. At the present period of depression and distress, too, whilst Agriculture labors, with every other interest of the country, the best means of restoring the too rapidly exhausted powers of the soil, the true modes of obtaining the greatest quantity of produce with the least consumption of time and labour, ought to constitute objects of constant ambition and solicitude, as we are certain they are of solid and permanent interest to the Southern Planter.

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"The more I am acquainted with Agricultural affairs, the better I am pleased with them; in so much that I can no where find so great satisfaction as in those innocent and useful pursuits."—WASHINGTON.

Mr. EDITOR,

It must be a matter of deep concern, nay, of mortification, among many of the friends of agriculture in our State, to perceive the apathy and indifference which exists among us, to promote an improvement in that branch of science, so important to our interests, and so useful and necessary to the support and happiness of man. While in most of our sister states, we behold every exertion made to excite and keep alive a spirit of emulation among the cultivators of the soil, by the formation of numerous societies, annually distributing premiums to their practical farmers. With few exceptions, we have not any thing of this kind in our state to produce that competition, so essentially necessary to the improvement of our system of agriculture. If we had in each of our Districts a Farmers Society, annually awarding a few premiums for the greatest crops of Rice, Cotton, Corn and Wheat, the product of a few acres of land, it requires no spirit of prophecy to predict a gradual and permanent increase of such crops throughout the state generally. Without any reference to the great increase of crops which have been effected by that emulation, resulting from the *formation* of Agricultural Societies in Europe within the last thirty years; we need no further evidence of their usefulness in producing great and essential benefit to the agriculture of any country, than the happy effects which have uniformly followed the creation of them in our Sister States. To confine their utility to the mere increase of crops, would be little indeed, compared to the many and useful results connected with their formation. The best mode of reclaiming old fields, *exhausted* by continued culture—reclaiming marsh and other swamp lands—an improvement in our stock generally, and the procuring for them better food, by the cultivation of grasses—together with the most approved method of cultivating our great staple articles, may be mentioned as a few results which might be *confidently* expected to follow their formation. The author of *Arator* justly remarks, "a patient must know that he is sick before he will take physick." Too many of us planters cannot admit that our system of agriculture requires improvement, when the number of old fields, totally worn out from constant cropping, or exposed to the fatal effects of close grazing, too fully prove the errors of our present system. If an enquiry be made of the product of all lands planted in Rice, Cotton and Corn, in our state, I am fully satisfied the result will be such as would fall far short of such crops as even a moderate estimation would have expected. Let most planters institute a slight inquiry in his own neighborhood, and for one who makes a good crop *per acre*, he will see many who make annually bad crops for the land planted. It must follow from this, that we either plant too much land, or do not *cultivate the land* to the best advantage; and very often, both these causes exist, to produce short crops independent of our seasons.

Upon no one article which we cultivate, have we attained that perfection which can induce any planter to conclude the system of cultivation perfect—hence, so often results a disappointment to the hopes of the Farmer, which is in many instances justly attributed to his want of knowledge in some essential point. To illustrate this, I shall only notice the serious losses sustained some years since, from many Planters flowing their Rice Fields with water, so salt, as not only to destroy the growing crop, but to injure the land for some seasons after. Much praise is justly due to the members of the Society established in Charleston in 1785, for their early exertions to convince our Planters of the importance and utility of Agricultural Associations, and though, as yet, their efforts have not been completely successful, may we not hope from the intelligence and wealth, which exist among its members, some new attempts will be made to rouse our Farmers to the many important results which would follow—the judicious distribution of agricultural premiums.

A few well conducted experiments in various parts of the State, *repeated* for three years, would bid fair to ascertain with much certainty the mode of cultivation most proper, in regard to the three great staples of our State—Cotton, Rice and Corn. At present, much diversity of opinion exists among our best Planters of the same District upon the following heads:—Upon the culture of Cotton, many approve of much closer planting than others; some prefer early thinning, while others contend for this part of the Cotton culture, to be deferred, to a much later period. While some advocate topping cotton, others disapprove of this plan; and among those who do practice it, much difference of opinion prevails as to the proper time. Upon the culture of rice in river swamps, where I believe our system of agriculture to be most perfect; our first rate planters do not agree as respects the distance that the rows should be apart—the quantity of seed, most proper for the acre, and the precise mode, time, and proper depth, to be used in the flowings of the rice during its growth. Without pretending to have much practical information upon the article of rice, I am induced to call the attention of those interested in its culture to the most proper time to commence the *harvest* of this very important grain. It appears to be the received opinion *now*, among *those* most acquainted with the culture of *all* the grain crops, that much loss is sustained in the quantity, and also great injury in the qualtity of the article, by waiting till the grain be *dead ripe*.—All rice planters know the serious loss by the shelling of the rice, when over ripe, and I am much induced to think that too little attention has been paid to this subject; and that generally the harvest of the rice crops are delayed longer, than they should be. It would be well for some planter to make a comparative trial of the quality and quantity from an acre; cut before the grain be completely ripe, and another, after the grain be hard. Much interesting information relative to the right time for the harvest of the grain crops, will be found in the 47th number of the second volume of that valuable Agricultural Journal, the American Farmer, by Mr. John C. Brush, whose reasonings, though principally intended for the *wheat* crop, are well worthy the attention of the rice planter

I have reason to believe that an experienced Rice Planter of Combahee, (Nat. Heyward, Esq.) many years since, instituted a number of experiments relative to the culture of this valuable grain. But from that *fashion* which prevails in our state, of not making public agricultural information, the advantages resulting from them, and no doubt many other important facts, in various parts of our State connected with our agriculture, are confined to a small circle of planters. In the culture of corn, the same division of sentiment occurs, while some contend for two or more stalks in each hill, others prefer a closer distance and only one plant in each. Many farmers of the North, as well as those of our Southern states, much extol the practice of cutting off the tops of the Indian corn, some time before harvest, while others deprecate this plan as highly injurious. *It would be greatly desirable, if any corn planter, possessing decided information relative to this contested point, would favour his Brethren with the facts either for or against this Practice.* Although the results of some of my experiments, are in favour of topping corn, they have not been so decisive as to satisfy my mind, of its propriety upon a large scale.

These few remarks are sufficient to convince all planters, that much yet remains to bring our mode of culture to that state, to enable us to reap the greatest crops from our lands—and I flatter myself if an enquiry be made of the *progress of agriculture*, either in Europe, or in our sister states, it will be found to have increased, with distribution of premiums, and the diffusion of agricultural knowledge so necessarily connected with the formation of *Agricultural Societies*.

A COTTON PLANTER.

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TO THE EDITOR OF THE AMERICAN FARMER.

## FLAX MACHINE.

*Brandywine*, 7th July, 1821.

MY FRIEND,

When I sent the Thorn seed to Sir John Sinclair, I made some inquiry of him concerning the Flax Machine, lately introduced into this country from England, by the Agricultural Society of Philadelphia, and which I had recently seen tried, having been present at a meeting convened for that purpose in their Society's Hall: Sir John writes to me from Edinburgh, under date of the 1st *of June*, 1821! as follows:—"With respect to the Machine for preparing Flax, *without water rotting*, it was originally thought to have been a very great discovery; but it is found to be too expensive for general use, and consequently it has not been employed to any great extent: nor does it seem to be so necessary where there is so favourable and so regular a climate as in many of the American States."

I give you these remarks of Sir John's about the Flax Machine for publication, that too high expectations may not be created, or individuals be led into heavy expenses without a reasonable prospect of indemnity. I must confess that when I saw the Machine in operation at Philadelphia, a doubt was left upon my mind as to the practicability of bringing it into general use; I feared that it would be too complicated to be beneficially employed by persons who were not pretty good mechanics—and then the first cost would be too heavy for most persons to encounter.

Yet I think our Agricultural Societies do well in disregarding the expense of testing such improvements in our implements of husbandry; for among our mechanics, there is a predominating portion of ingenuity, that will make the best of a *principle*, by simplifying the means of attaining a desired object. And as the Philadelphia Society have offered a premium for a Flax Machine, of the best construction, to be presented by the first of January next, I think the uselefuless of such machines in this country is in a fair way of being ascertained.

I remain very respectfully,
thy friend,
CALEB KIRK.

J. S. SKINNER.

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## MILLET.

*To the Editor of the American Farmer:*

SIR—I have noticed with great satisfaction, Dr. Coleman's experiments on MILLET, but am at a loss (as well as many others who read your excellent paper) to know the *kind* or *species* he is cultivating.

I sowed about an acre and a half of good ground last year with this grain; and obtained from two pecks, about twenty-five bushels of seed, with a large quantity of straw, which was preferred by horses as well as cows, to the best timothy hay. As a grass, therefore, to be used either dry or green, I think this species of Millet must be invaluable. It may be sown early in May, and in sixty or ninety days it will be ready for the scythe; affording a good crop of hay, preferable to clover, perhaps, or any other grass we have in use here.

But there is now growing in the garden of my friend Dr. Clendinen, of this city, another and a better species of this excellent grain or corn. He does not know from where he got the seed; but suspects its accidental importation from Smyrna. Dr. C.'s plants resemble mine in their general aspect, particularly in their seed, jointed-stems, blades, &c. but they are two perfectly distinct species.

By referring to the article PANICUM, in Rees' Cyclopedia, you will find that following the method of Linneus, the author has divided this GENUS into two classes, the *spiked* and *panicled*. To the first of these divisions, I referred the kind which I cultivated last summer. But we must refer the kind which Dr. C. has growing, to the second or *panicled*.

We might with some propriety, call one of these kinds the small and the other the large Millet. The small Millet will be found best for hay, I expect, the large for grain.

The large, or *panicle headed* Millet (*Panicum Milliaceum*) attains in rich ground, fully the height of six or eight feet—The *stem* as thick as the little finger—*leaves* or blades one and a half inches broad, and measuring upwards of two feet in length—altogether resembling the leaves or blades of our maize or Indian corn. The *head* twelve to eighteen inches long, subdivided into many short sessile branches, bearing an immense number of *seed*.

The *spiked*, or small Millet, (most probably the *panicum italicum*) grows more like our common wheat. The *stems* being about three feet high—*leaves* of same form as the large Millet, but small in proportion—*spikes*, or heads bearing seed from three to five inches long. As seed bearers, both of these species of Millet, are truly astonishing: And in them we possess an article of cheap food, equally delicious, if not more so, than either rice or corn.

Respectfully,
Your obedient servant,
JAMES SMITH.

*Baltimore*, 4th August, 1821.

## *TURNIPS—how to protect from Fly; OATS in the straw contrasted with Hay as Forage.*

TO THE EDITOR OF THE AMERICAN FARMER.

*Washington*, 3d August, 1821.

*Sir*—I sowed five acres in turnips, but they have been almost all destroyed by the fly or burnt up. A neighbor of mine whom I deem the first of farmers, has saved his turnips by working the earth up to the young sprouts; whereby, first, the roots were made more distant from the great heat, and secondly the earth sprinkled on the young plants, prevented the fly from eating—the same effect was produced on cucumber and melon plants when young. This hint I give in haste, as many persons have not yet sown their turnips.

Oats cut with the straw and put in the crib, is better food for horses than hay, and one ton will go as far as two tons of hay—the former is all eat, and the latter being picked out by horses from the racks, is half lost. Oats with the straw costs 50 cents per ton, and hay costs one dollar per ton. If, therefore, I sell my hay and buy oats unthreshed with the straw, I benefit thirty dollars in forty.

I trust that these two suggestions, will compensate for my neglect of agricultural subjects for some time. —I mean to destroy my racks—dry leaves and corn stalks must be my litter in the winter—Verbum sapient.

10th August, 1821.

I wrote you a few lines to inform you of the ravages of the fly among my turnips, &c —About a week ago I despaired of my crop, but threw on the rows, burnt clods, and now to my joy, find a most agreeable change—many that I thought dead have revived—The fly has disappeared and new leaves pushed out, although my ground is very dry for want of rain. I mention this in haste, that others may save their turnips.—If we have not rain soon our corn will be all destroyed. I rely on turnips and straw to preserve my cattle. If others make the same experiment and are successful, we may have found a preventive against the fly, whilst we add a good manure.

Your's,
T. LAW.

SOME OBSERVATIONS ON THE

## Hessian Fly;

WRITTEN IN THE YEAR 1797, BY DR. ISAAC CHAPMAN.

Original read before the Agricultural Society of Bucks County, 14th August, 1820—Forwarded to the Philadelphia Agricultural Society, and ordered to be published in the National Recorder.

That insect first appeared in Bucks county in the spring of the year 1786, upon the banks of the Delaware opposite Trenton, having crossed the river from N. Jersey, where it had the preceding year destroyed the greatest part of the wheat, but in Bucks not much damage was observed except in a few fields opposite Trenton; after harvest they spread over several townships, and the farmers having sown their wheat the latter end of August and beginning of September, the young plants in two or three weeks after appearing above ground began to die, and when winter came on instead of the ground being spread over with verdure, as it used to be, in many fields the young plants were nearly all destroyed by the insect.

In 1787 the wheat was in several townships, the greatest part destroyed. After harvest they spread to a great extent, and did great injury to the young wheat before the frosts came on.

In 1788, in the beginning of May and until the 15th or 20th of the same, many fields appeared very promising, but then the growth of the wheat began to be at a stand, and after some days withered and died; many farmers seeing it thus withering away, turned their creatures into the wheat fields so that at harvest but little had this year come to maturity. After harvest they spread nearly all over the county, and in to some parts of the adjacent counties of Philadelphia and Montgomery

The farmers observing in the two preceding harvests, the wheat that had been sown early in the season to be more damaged than that sown later, this year generally sowed later in the season than before, and being much discouraged by the crops of the two preceding years failing, put in but little ground with wheat, but chiefly sowed rye, which the fly, has as yet damaged very little; and the yellow bearded wheat being introduced, was generally sown on the best grounds well manured. This wheat was brought from Long Island or New York, to which place it was introduced from the southern states, and was said to be proof against the insect, from its having a very hard stalk, and beginning to grow earlier in the spring than that variety they had been accustomed to sow.

1789. The fall and winter 1788 and the spring of 1789, being very favourable, the wheat fields appeared very promising; the insects not doing much damage, except in some low, warm and sheltered situations; and the harvest though not extraordinary, was good when compared to that of preceding years.

1790. In the autumn of 1789 the wheat was sown very late, and the winter being unfavourable for winter grain, in the spring of 1790 it made a very unpromising appearance, and the yellow bearded wheat was found not to be proof against the insect: the harvests in general were light.

This insect was first discovered on or near Long Island, in the state of New York, from whence they spread rapidly, and was in the year 1797, found west of the Alleghany mountains. From their apparent progress through the country, they advanced about 30 miles in one summer.

Having so marked the progress of this insect, and their destructive operations upon the wheat, I will go into a more particular account of them, their economy and destructive process.

Their principal emigrations appear to be after harvest, in August and the beginning of September. The first year they appear in no great numbers, and scattering; but the next year they advance in great numbers, and, with the increase of those that came the preceding year, make great destruction. It was in the second year of their appearance in my neighbourhood, that I began to be particular in observing them, and from notes taken that and succeeding years, I draw this account.

As this, like most species of flies, undergoes several transformations before they arrive to a perfect state, I now state such observations as I have made upon them in their different stages, until they arrive to the fly.—First, of the egg, then of the larva or caterpillar, then the aurelia or chrysalis, and lastly, when they arrive to the mature state of a fly.

1st. The eggs. These are deposited by the parent fly on the leaf or blade of the wheat, at different times in the spring; the latter end of April and beginning of may, they may be seen laying their eggs on the leaves that have grown that season; they deposit them in the small creases that are longitudinal in the leaf. The egg is scarce discernible with the naked eye, but with a microscope it appears oblong, both ends of the same size, and of a beautiful glossy pale red, a little inclining to yellow. After a few days more, or fewer, as they are warmer or colder, the egg hatches, and the young caterpillar appears.

2d. The larva or caterpillar. It is in this state that the insect does all its mischief: when the caterpillar first appears out of the egg, it retains the pale red colour of the egg, is wrinkled, and has a considerable degree of agility; as soon as hatched it creeps down the leaf until it comes to where it joins the head or main stalk of the plant; if the stalk has advanced much, so that the pedicle of the leaf forms a sheath,

and continues its course until it reaches the bottom of the sheath ; here it fixes to the stalk, if shot up, if not, to the head of the plant where the pedicle of the leaf joins, with its head downwards, and with its teeth it perforates into a sap vessel, from which it draws its nourishment. Having thus placed itself into a proper situation it never alters its position, until it undergoes the remaining transformations. By the sap it is nourished, its body enlarges, loses its wrinkled appearance, changes to a paler colour, becomes plump and hard, so as to resist the pressure of the stalk and sheath, and as it daily increases in bulk, it presses with such force against the stalk as to print its shape in it, and thus prevents the sap from passing the side of the stalk against which it is fixed : one insect thus placed seldom destroys the plant, but when two or three are fixed in this manner round the stalk or head of a plant, they certainly destroy it ; not by the nourishment they draw from the sap, or eating any part of the plant, but by the pressure they make, stopping the ascent of sap, and thus cutting off the nourishment of the plant. They are frequently found in the second sheath from the ground, after the stalk is shot up ; but when this is the case, the eggs have been deposited late in the season, and the stalk has acquired such a degree of hardness before the caterpillar begins to press against it, that very little impression is made on the stalk, and little or no damage sustained. And here it may be worth our notice to see how unerring instinct operates on these little animals, scarce visible to the naked eye ; the minute they are excluded from the eggs, they are directed to a proper situation, and invariably place themselves with their heads to the root of the plant, that their nourishment may not be cut off in stopping the ascent of the sap, whereby they would perish, as happens to those that are placed uppermost on the stalk when a great number are found together : sometimes twenty or thirty being found in the same sheath, the upper ones frequently die for want of sap, and very few thus situated arrived to their proper size.

They continue growing in the catterpillar state between four and five weeks, towards the latter part of which time they change from a light colour to somewhat of a brownish cast, and then to a dark brown, the outward coat of the catterpillar becoming a hard shell or covering for the chrysalis, which change takes place the latter end of May or beginning of June.

3d. The chrysalis state. In this state they receive no nourishment, and continue without any apparent outward alteration about four or five weeks ; and in this time the last transformation takes place, and the insect appears in its most perfect state of a fly, which perforates the case of the chrysalis, and makes its appearance in the latter end of July or beginning of August.

4th. The fly is small, has long slender legs, wings long and single, and when they join to the body or thorax, taper almost to a point ; towards the other extremity they expand, and at the end form nearly a semicircle ; the head and thorax are very small in comparison with the abdomen, which is large, particularly in the females—and, when viewed with a microscope, there appears round the abdomen many beautiful circles of a pale red, inclining a little to a yellow colour.

In the last state the insect is very active, moving from place to place with great agility ; and in the latter part of August and beginning of September their principal migrations take place—those vegetables on which they deposite their eggs, being scarce, they emigrate in search of greater plenty.

They now copulate, and soon after begin to deposit their eggs—and, as nearly as I could discover, this process is finished by the 15th or 18th of September, though some of them changing from the chrysalis state later than others, will lay their eggs later in proportion.

Now, having traced the insects through one generation, which lasts from the latter end of April to the 15th or 20th of September, I will carry my remarks through another generation, which being done, I shall have traced them through their various transformation and economy for the period of one year.

*( To be concluded.)*

## Cashmere Downy Goat.

UPON THE IMPORTATION INTO FRANCE, OF THE CASHMERE DOWNY GOAT.

[Extract from a memoir read by Tessier, inspector general of sheep, before the Royal Academy of Sciences, Sept. 13th, 1819.

*Translated for the Boston Weekly Messenger.*

" The sight of these shawls, which are brought from Asia, which spread all over Europe, make a part in the presents of the sovereigns of the East, and adorn the head and waist of the rich inhabitants of those countries, gave rise to the question among naturalists, what species of animal produced the material from which such precious stuffs were made. Travellers gave no satisfactory information upon this subject. The general opinion was, that cashmeres were produced from a goat, but the particular species was not determined.—The importation which has just been made, clears up, in part, this difficulty, for these animals produce a down exactly like that of which the most rare shawls are made ; I say in part, because it is possible that wool may be also employed for this purpose, or that different kinds of the goat may unite to bring the manufacture to perfection. I shall describe particularly those which I have seen upon their arrival at two of our Mediterranean ports.

" Their usual height is about twenty-five inches from the ground to the top of the back, and the length from the beginning of the tail to the head, three feet. Almost all have horns, which are straight black, and for the most part round ; those of some males' head at the extremity. The fleeces of the males, as well as females, are thick furry, white in the majority of individuals, some brown or black, several spotted. They are formed of long hard hairs which cover the legs in part, and a very soft down. The latter is fine in proportion as the hair is long—the quality of one may be known from the other. This down grows near the skin, from which it separates and forms tufts, which can be drawn away by a comb or by the hand. Except in the case of an absolute prohibition, it appears as if our manufactures would have no interest in importing these downy cashmere goats into France, for the material may be procured in the way of commerce ; it would be sufficient for them to endeavor to imitate the stuff which bears this name. M. Ternaux, so well known by his beautiful establishments was not of this opinion. He had received by the way of Russia down enough to make some shawls ; his success gave him the idea of procuring the animals on whose body nature had placed this down. The undertaking was not an easy one. He found in M. Jaubert, master of requests, and professor of the Turkish language, a man of zeal and intelligence, who was not to be repulsed by obstacles, and who was much attached to his country. This gentleman had already travelled in the Levant and could make himself understood among the different nations. He was willing to undertake the expedition. In order to obtain the protection of government, Mr. Terneaux presented him to the Duke of Richelieu, then minister of foreign affairs. This minister who acknowledged the utility of the project made a contract with Ternaux and Jaubert, in the name of the king by which Ternaux was to receive a premium of encouragement if the expedition succeeded. The government was to take a hundred goats at a high price. In consequence of this Jaubert left Paris in the month of April 1818, recommended by the Duke de Richelieu to the notice of the Emperour of Russia. This sovereign gave orders in his dominions, that the French traveller should be furnished with all the facilities which he needed.—Jaubert went first by Odessa, Tangarock and Astracan to the camp of General Jermoloff, under the Caucasus taking every where information from the Boukars, respecting the Kirghiz and the Armenians who frequent and inhabit the last of these cities. He was informed that there existed among the numerous hordes of Kirkhiz, a wandering people who come into Boukaria, on the borders of the Oural, a species of goat which was almost always of a dazzling whiteness, and which bore every year in the month of June a remarkable fleece. The samples which were shown him convinced him of the conformity of this down with that which came into France by the way of Russia. This discovery was the more interesting to him as it might save his time, and a troublesome journey in crossing into Thibet, by Persia and Cashmere. He was not deceived, and in some hundred verstes from the Wolga, in the middle of the Steppes, which separate Astracan from Oremburg, he found thick tufts of the down which convinced him, that he would not find it necessary to go much farther. He had also remarked that they gave them the name of Thibet Goats, in the language of the country, when they spoke of them. He then made his purchases, buying different lots among the Kirghiz of the horde called Cara-Agagdi (the black tree) among the Kirgniz of the horde call-Kaisaks, in all 1289 beasts. He directed his

troop towards Tsaritzin, where he passed the river Wolga. The seasom became severe, and the mortality among the goats was very great. He had formed a plan of embarking them at Tungarock, but the sea of Azof was frozen. He was obliged to go along the coast with them to Theodosia or Caffa. He arrived there the 24th of December, after having already lost 288 of his animals. The 14th of February he sent in a Russian vessel, the only one he could procure. 566, together with some Astracan sheep, under the care of a French supercargo. The vessel arrived at Marseilles towards the month of April. Jaubert had preferred not to come until he could bring the second troop, which he did not wish to leave behind.

"It results from the experiment of Jaubert and Ternaux, that from 1289 goats bought among the Kirghiz, deducting all the losses which have taken place, there are at present in France 400 downy goats of Cashmere.

FOR THE AMERICAN FARMER.

## THE PEERAGE OF ENGLAND.

"Stuck o'er with titles, or hung round with strings,
*That* thou may'st be, by kings or whores of kings."
POPE.

In your paper of the 13th, there is inserted an account of the peerage of England, amounting to several hundreds, whose descent is reckoned, in a number of instances, to ancestors of many ages past, as far as the days of William 1st, the Norman conqueror of the kingdom.—This detail of vanity has, however, as much falsehood as imposition in it; and, it may not be amiss for the American reader, or any ONE who bears the figure, and breathes the spirit of a human being, to be told the truth—that they may know at once their own equal value in the creation, and the worthlessness of those who have endeavoured to gild their own names with the insolent titles of nobility—and have abused the rest of mankind with debasing appellations of vassalage, villainage and slavery.

The heads of bands of freebooters, in every instance—the robbers and spoilers of people and countries, were *they* who assumed these sounding names and titles. And who are they who claim honor of being descended from thieves and murderers? William the conqueror, is the title of a bastard sprung from a barbarous woman, the chief of mongrel bands of sea and land robbers, who possessed themselves by force of a part of France—became a duke, and his spurious descendant, by like force, made himself king of England. Was he such who is the acknowledged head of this boasted nobility?—and what are then the bearers of the names of his vassals, who now tell the world, that they are as old as he; which, in their language, means nearly as good? The last need not be denied; but, though they are the sons of sons of men, who lived in his times, as every one now living is; yet it may be boldly said, that hardly any of these claimants of nobility can show that their fathers were even the title bearers, then, or for many ages after.—The continual wars and rebellions of the barons of former days, destroyed their persons and families—and transferred their confiscated estates and titles to the supporters of the strongest party. These new earls, dukes, &c. soon became, in their turn, the victims of new changes: and, after the destroying vicissitudes of York and Lancaster successions, scarcely an old noble remained. Henry 8th accomplished the ruin of the rest; and still, as new men appeared with the old titles, the convulsions of religions, civil wars, and the blasting lewdness that came with the restoration of monarchy, swept away the last comers. But, from that dissolute Charles 2d, was generated a race which took possession of the old titles "Bedford and Exeter, Warwick and Talbot," Monmouth, Richmond, St. Albans, Grafton, Buccleugh, Delo raine, and Southampton, dukes and earls—who, "in their flowing cups may be freshly remembered"—as the sons of Lucy Waters, Quironaille, Nelly Gwynn, B. Villiers, &c. &c. A bastardy, that, joined with all the sycophants and sellers of their country to this day patented, makes up this noble list of English Peers under now, old and revived titles, with the pretence, "that those whom they call fathers did beget them."

J. M.

*Baltimore, July 26, 1821.*

*To destroy Ticks on Sheep.*—Part the wool along the back and down each side of the neck, and sprinkle snuff therein: it will kill the ticks in the course of three or four days. This operation ought to be repeated in ten or twelve days, to kill off the next crop that will hatch out. This operation, performed on the lambs after the old sheep are shorn of their fleeces, will expel the vermin from the flock.

*To preserve Apples through the season*—Gather them about noon, in the latter part of September or beginning of October; spread them in a chamber or garret, where they may remain till about the last of November. Then remove them into sks or boxes in the cellar. With this management, they will keep to the last of May, so well that not one in fifty will rot.

*Directions to preserve Cherries, Plums, &c. without sugar.*—Fill largeed neck bottles with the fruit, put the corks in loosely, let them be put into a kettle of water, increase the heat to scalding for about three quarters of an hour: when of proper degree, keep it at the same half an hour longer, fill up with boiling water, cork down tight, lay them on the side till wanted for use.

*To preserve Turnips from Insects.*—First—To a quantity of Turnip seed, add one ounce of brimstone finely powdered; put them into a bottle large enough to afford room to shake them well together every day for four or five days previous to sowing, keeping it well corked. Secondly. Take such a quantity of clover leaves, as when bruised, will yield juice sufficient to cover the turnip seed you intend to sow, in which let it soak about twelve hours: the next day mix it with the bruised leaves, aud sow all together.

# THE FARMER.

BALTIMORE, FRIDAY, AUGUST 17, 1821.

### PRICES CURRENT.

Flour from the wagons, $5 12½—Whiskey from do. 25 cts—Wheat, white, $1 a 1 05—Red, 95 a 100—Corn, 38 a 40 cts.—Oats, 18 a 20—Rye, 40—Hay, 12 a $14—Live Cattle, $5 a 6 50—Codfish, per quintal, wholesale, $3, retail 3 50 a $4—N. England Beans per bushel $1 12½—ditto Peas, 75 cents—Plaster in stone $6 per ton—do, ground, $1 35 per barrel, 33 cts. per bushel, $8 per ton—New-Orleans sugar, $9 to $12 50—Muscovado, do. $9 a $12—American White Lead, $12 50—Ground do. 13 a 14—Linseed Oil, 75 cents—Feathers, 40 a 45 cents—Shad, new, $6—Herrings, $2 a $3 25, declining—Fine Salt, 55 cents per bushel—Ground Alum do 55 a 60—St Ubes, 60—Cadiz, 50 a 55 Turk's Island, 75—Beef, 8 to 10 cts. Hams 10 a 12 cents—Middlings, 10 cents—Butter, 25 cents—Peas, 50 cents pr bushel—Eggs, 12½ cts—Cheese, 8 a 10 cts per pound—Tar $2 12½—Turpentine, soft, 2 12½—Hard, 1 50 to 1 62½— } Cargo prices Pitch 2 a 2 25—Rosin, common, $1 37½ a 1 50—Varnish, 25 cents—Spirits Turpentine, 33 cents per gal.

Virginia Tobacco—A few hogsheads Virginia Tobacco of inferior quality at $6 a 6 50—2 hhds. do. at 6 50 a 8.

Maryland Tobacco—same as last week—Fine ditto, carce, but much in demand.


## Early & Late Cabbage Seeds,

To be sown in the fall, particulaaly in the Southern States.

### *J. P. CASEY, Seedsman,*

No. 2, HANOVER-STREET,

Next door to Barnum's Hotel, has received from London, the following SEEDS, all of the best quality.

| | | |
|---|---|---|
| Early | Screw Cabbage | Seed |
| Do | Washington | do |
| Do | Salisbury | do |
| Do | Wellington | do |
| Do | Smyrna | do |
| Do | Coberg | do |
| Do | George | do |
| Do | York | do |
| Do | Sugar Loaf | do |
| Do | Penton | do |
| Do | Battersea | do |
| Late | Battersea | do |
| Do | York | do |
| Do | Flat Dutch | do |
| Do | Drum Head | do |
| Do | Brunswick | do |
| Do | Amsterdam | do |
| Do | Large English | do |
| Do | Imperial Russia | do |
| Do | 1000 Headed | do |
| Do | Turnip Rooted | do |
| Do | Yellow Savoy | do |
| Do | Green & White Savoy | do |
| Do | German Greens | do |
| Do | Br. & Green Borecole | do |
| Do | Brussels Sprouts | do |
| Do | Coleworts | do |
| Early and Late London and Dutch Cauliflower | | do |
| Do | Purple, Green and White Brocoli | do |
| Do | Cape and Sprouting | do |

The first 19 sorts bear large hard white heads, and succeed each other so as to have a succession of Cabbage all the year; some of the late sorts are used for feeding cattle.

In addition to the above, CASEY has received a further supply of Seeds, including early George, Wellington and Sour Croute Cabbage. The first 19 sorts will be sold at 37½ cents per oz. and the other sorts from 12½ cents to 100. Gardeners and retailers will be allowed a considerable discount for cash—The earliest sorts are marked first on the list, early Screw Cabbage is insured to me to come much earlier than any cabbage known in Europe.